



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

AUSTEST LABORATORIES ¹
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ELECTRICAL

Valid To: November 30, 2017

Certificate Number: 2765.02

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory at the location listed above, *as well as the satellite laboratory location listed below*, to perform the following Product Safety, EMC, and Telecommunication tests:

<u>Test:</u>	<u>Test Method(s) ²:</u>
<i>Product Safety</i>	AS/NZS 60950-1; IEC/EN 60950-1, 1 st and 2 nd Editions; AS 62040.1.1; AS 62040.1.2; IEC 62040-1; AS/NZS 3100; AS/NZS 3105; AS NZS 3112; AS/NZS 3122; AS/NZS 3133; AS/NZS 3136; AS/NZS 60884.1:2013 Plugs and Socket-outlets for Household and Similar Purposes, Part 1: General Requirements (<i>Appendix ZZ only</i>); AS/NZS 3120:2011 Cord Extension Sockets; AS/NZS 3140 (only clauses 8, 10, 14.2, 14.3, 14.4 & 15 to E27 Lampholder); AS/NZS 3197; EN 50155:2007 - test 12.2.6 Supply Overvoltage - test 12.2.7 Surges, ESD and Transient Burst Susceptibility - test 12.2.8 Radio Interference - test 12.2.9 Insulation; AS/NZS 60065; IEC 60065; EN 60065; AS/NZS 60320-1 (<i>excluding 'Hot' and 'Very Hot' conditions</i>); AS/NZS 60598.1, IEC 60598-1, EN 60598-1, and Associated Part 2 Series of the Standards for the Following Luminaires Type: Part 2.1 Fixed General Purpose Luminaires Part 2.2 Recessed Luminaires Part 2.3 Luminaires for Road and Street Lighting Part 2.4 Portable General Purpose Luminaires Part 2.5 Floodlights Part 2.6 Luminaires with Built-In Transformers or Convertors for Filament Lamps Part 2.8 Handlamps Part 2.10 Portable Child-Appealing Luminaires Part 2.17 Luminaires for Stage Lighting, Television, Film, and Photographic Studios (Outdoor and Indoor) Part 2.20 Lighting Chains Part 2.22 Luminaires for Emergency Lighting (<i>excluding clause 22.16, Functional Safety</i>);

Test:

Product Safety (Cont'd)

Test Method(s)²:

AS/NZS 61010.1; IEC 61010.1; EN 61010.1:
Part 031 Hand-Held Probe Assemblies for Electrical Measurement and Test;

AS/NZS 61558-1, IEC 61558-1, EN 61558-1,
and Associated Part 2 Series of the Standards for the Following Transformer Types:

Part 2.1 Separating Transformers and Power Supplies Incorporating Separating Transformers for General Applications
Part 2.4 Isolating Transformers and Power Supply Units Incorporating Isolating Transformers
Part 2.6 Safety Isolating Transformers and Power Supply Units Incorporating Safety Isolating Transformers
Part 2.7 Transformers and Power Supplies for Toys
Part 2.16 Switch Mode Power Supply Units and Transformers for Switch Mode Power Supply Units;

AS/NZS 3350-1; IEC 60335-1, 3rd Edition; EN 60335-1, 3rd Edition; EN 60335-1, 4th Edition; AS/NZS 60335-1;
IEC 60335-1, 4th Edition;
IEC 60335-1, 5th Edition (*excluding clauses 22.16, cord reel test, and 22.32, oxygen bomb test*), and the Associated Part 2 Series of the Standards for the Following Equipment Types:

Part 2.2 Vacuum Cleaners and Water-Suction Cleaning Appliances (*excluding clause 21, Mechanical Strength*)
Part 2.3 Electric Irons
Part 2.4 Spin Extractors (*Australian/New Zealand National Variations only*)
Part 2.5 Dishwasher
Part 2.6 Ranges, Ovens, and Hobs
Part 2.7 Washing Machine
Part 2.8 Shavers, Hair Clippers, and Similar Appliances
Part 2.9 Portable Cooking Appliances
Part 2.10 Floor Treatment Machines and Wet Scrubbing Machines (*Annex ZZ only*)
Part 2.11 Tumble Dryers
Part 2.12 Warming Plates and Similar Appliances
Part 2.13 Deep Fat Fryers, Frying Pans, and Similar Appliances
Part 2.14 Kitchen Machines
Part 2.15 Appliances for Heating Liquids
Part 2.16 Food Waste Disposers (*Australian/New Zealand National Variations only*)
Part 2.17 Blankets, Pads, Clothing, and Similar Flexible Heating Appliances (*Australian/New Zealand National Variations only*)
Part 2.21 Storage Water Heaters
Part 2.23 Appliances for Skin and Hair Care
Part 2.24 Refrigerators and Ice Makers
Part 2.25 Microwave Ovens including Combination Microwave Ovens (*Annex ZZ and Clause 32 only*)
Part 2.26 Clocks (*Annex ZZ only*)
Part 2.28 Sewing Machines
Part 2.29 Battery Chargers
Part 2.30 Room Heaters
Part 2.31 Range Hoods (*excluding clause 30, Resistance of Heat and Fire [ISO 9772 Test Apparatus]*)
Part 2.32 Massage Appliances



Test:

Test Method(s) ²:

Product Safety (Cont'd)

- Part 2.34 Motor-compressor (*Australian/New Zealand National Variations only*)
- Part 2.35 Instantaneous Water Heater
- Part 2.40 Electrical Heat Pumps, Air-conditioners, and Dehumidifiers
- Part 2.41 Pumps
- Part 2.43 Clothes Dryers and Towel Rails
- Part 2.45 Portable Heating Tools and Similar Appliances
- Part 2.47 Commercial Electric Boiling Pans
- Part 2.51 Stationary Circulation Pumps for Heating and Service Water Installations
(*Australian/New Zealand National Variations only*)
- Part 2.52 Oral Hygiene Appliances
- Part 2.53 Sauna Heating Appliances and Infrared Cabins
(*Australian/New Zealand National Variations only*)
- Part 2.54 Surface Cleaning Appliances (*excluding clauses 21.101 through 21.105, Current-Carrying Hoses*)
- Part 2.55 Aquariums and Garden Ponds
- Part 2.59 Insect Killers
- Part 2.61 Thermal-storage Room Heaters (*Annex ZZ only*)
- Part 2.64 Commercial Electric Kitchen Machines
- Part 2.65 Air-Cleaning Appliances (*Annex ZZ only*)
- Part 2.66 Water-bed Heaters
(*Australian/New Zealand National Variations only*)
- Part 2.67 Floor Treatment Machines for Commercial Use
(*Australian/New Zealand National Variations only*)
- Part 2.68 Spray Extraction Machines for Commercial Use
(*Australian/New Zealand National Variations only*)
- Part 2.69 Wet and Dry Vacuum Cleaners, including Power Brush, for Commercial Use
(*excluding clause 21, Mechanical Strength*)
- Part 2.70 Milking Machines (*Annex ZZ only*)
- Part 2.71 Electrical Heating Appliances for Breeding and Rearing Animal (*Annex ZZ only*)
- Part 2.72 Floor Treatment Machines with or without Traction Drive for Commercial Use
(*Australian/New Zealand National Variations only*)
- Part 2.73 Fixed Immersion Heaters
- Part 2.74 Portable Immersion Heaters
- Part 2.75 Commercial Dispensing Appliances and Vending Machines
(*excluding Annex AA, Aging Test for Elastomeric Parts*)
- Part 2.77 Pedestrian Controlled Mains-Operated Lawnmowers
(*Annex ZZ only*)
- Part 2.78 Outdoor Barbecues
- Part 2.79 High Pressure Cleaners and Steam Cleaners
(*Australian/New Zealand National Variations only*)
- Part 2.80 Fans
- Part 2.81 Foot Warmers and Heating Mats
(*Australian/New Zealand National Variations only*)
- Part 2.82 Amusement Machines
- Part 2.83 Heated Gullies for Roof Drainage (*Annex ZZ only*)
- Part 2.84 Toilets
- Part 2.85 Fabric Steamers
- Part 2.86 Electric Fishing Machines (*Annex ZZ only*)
- Part 2.87 Electric Animal-stunning Equipment (*Annex ZZ only*)



Test:

Product Safety (Cont'd)

Test Method(s)²:

Part 2.89 Commercial Refrigerating Appliances (*excluding clauses 22.106 through 22.109, Flammable Refrigerants*)
Part 2.90 Commercial Microwave Ovens (*Annex ZZ only*)
Part 2.91 Walk-Behind and Hand-Held Lawn Trimmers and Lawn Edge Trimmers (*Annex ZZ only*)
Part 2.92 Pedestrian-Controlled Mains-Operated Lawn Scarifiers and Aerators (*Annex ZZ only*)
Part 2.94 Scissors Type Glass Shears (*Annex ZZ only*)
Part 2.95 Drivers for Vertically Moving Garage Doors for Residential Use
Part 2.96 Flexible Sheet Heating Elements for Room Heating (*Annex ZZ only*)
Part 2.97 Drives for Rolling Shutters, Awnings, Blinds, and Similar Equipment
Part 2.98 Humidifiers
Part 2.100 Hand-Held Mains-Operated Garden Blowers, Vacuums, and Blower Vacuums (*Annex ZZ only*)
Part 2.101 Vaporizers
Part 2.102 Gas, Oil, and Solid-Fuel Burning Appliances Having Electrical Connections
Part 2.103 Drives for Gates, Doors, and Windows
Part 2.105 Multifunctional Shower Cabinets (*Annex ZZ only*)
Part 2.106 Heated Carpets and for Heating Units for Room Heating Installed under Removable Floor Coverings (*Annex ZZ only*)
Part 2.107 Robotic Battery Powered Electrical Lawnmowers (*Australian/New Zealand National Variations only*)
Part 2.108 Electrolysers (*Annex ZZ only*)
Part 2.109 UV Radiation Water Treatment;
IEC/EN 61347-1 (*except 18.2, PCB Resistance to Fire*);
AS/NZS 61347.1 and the Associated Part 2 Series of the Standards for the Following Lamp Controlgear Types:
Part 2.3 A.C. Supplied Electronic Ballasts for Fluorescent Lamps (*except Annex J, Emergency Lighting*)
Part 2.9 Ballasts for Discharge Lamps
Part 2.11 Misc. Electronic Circuits used with Luminaires
Part 2.13 D.C. or A.C. Supplied Electronic Control gear for LED Modules;
AS 4777.2; AS 4777.3;
AS/NZS 4777.2 - Grid connection of Energy Systems via Inverters;
AS/NZS 4763:2011 - Safety of Portable Inverters;
IEC 61727 – Photovoltaic (PV) systems – Characteristics of the utility interface
IEC 62109-1, EN 62109-1:
Safety of Power Converters for use in Photovoltaic Power Systems, Part 1 General Requirements;
IEC 62109-2, EN 62109-2:
Safety of Power Converters for use in Photovoltaic Power Systems, Part 2 Particular Requirements for Inverters;
IEC 62116
Utility-interconnected Photovoltaic Inverters – Test Procedure of Islanding Prevention Measures;



Test:

Test Method(s) ²:

Product Safety (Cont'd)

AS/NZS 1158.6 (Luminaires)
- Clause 5.2 PE Cell type Luminaires
- Clause 5.6 Ingress Protection Test
- Clause 5.8 Impulse Voltage Test
- Clause 5.10 Additional Tests (as required by AS/NZS 60598.1)

Fire Hazard Testing

IEC 60112, EN 60112, AS/NZS 60112:
Proof and Comparative Tracking Indices of Solid Insulating Materials;
IEC 60695.11.5, EN60695.11.5, AS/NZS 60695.11.5:
Needle Flame Test;
IEC 60695.10.2, EN 60695.10.2, AS/NZS 60695.10.2:
Ball Pressure Test;
IEC 60695.2.10, EN 60695.2.10, AS/NZS 60695.2.10:
Glow-wire Apparatus and Common Test Procedure;
IEC 60695.2.11, EN 60695.2.11, AS/NZS 60695.2.11:
Glow-wire Flammability Test Method for End-Products;
IEC 60695.2.12, EN 60695.2.12, AS/NZS 60695.2.12:
Glow-wire Flammability Test Method for Materials;
IEC 60695.2.13, EN 60695.2.13, AS/NZS 60695.2.13:
Glow-wire Ignitability Test Method for Materials

Performance (MEPS)

AS/NZS 4665;
AS/NZS 62087.1;
AS/NZS 62087.2.1; AS/NZS 62087.2.2;
AS/NZS 62301;
AS 5102.1; AS 5102.2

Electromagnetic Fields (EMF)

EN 62233

Telecommunications

AS/ACIF S002; AS/CA S002;
AS/ACIF S003;
AS/CA S003.1;
AS/CA S003.2;
AS/CA S003.3;
AS/ACIF S004;
AS/ACIF S006;
AS/ACIF S008 (*excluding underground conduit, surge suppression devices, optical fibre and coaxial cable, pits*);
AS/CA S008 (*excluding underground conduit, surge suppression devices, optical fibre and coaxial cable, pits*);
AS/ACIF S031, TBR 003/A1;
AS/ACIF S038, TBR 004/A1;
AS/ACIF S040;
AS/ACIF S041;
AS/ACIF S041.1; AS/ACIF S041.2; AS/ACIF S041.3;
AS/CA S042.1;
AS/ACIF S043.1; AS/ACIF S043.2; AS/ACIF S043.3;
Industry Canada CS-03 parts I, V, and VIII;
ANSI/TIA-968B



Test:**Test Method(s) ²:**

*EMC – Emissions
Radiated and Conducted
(3m semi-anechoic
chamber)*

AS/NZS CISPR 11; CISPR 11; EN 55011
(radiated 30MHz to 6GHz, conducted 150 kHz to 30MHz);
AS/NZS CISPR 13; CISPR 13; EN 55013;
AS/NZS CISPR 14; CISPR 14; EN55014;
AS/NZS CISPR 15, CISPR 15, EN55015
(excluding radiated emissions below 30MHz);
AS/NZS CISPR 22, CISPR 22, EN 55022
(radiated 30MHz to 6GHz, conducted 150kHz to 30MHz),
(telecom ports 150 kHz to 30MHz);
CFR 47 FCC Part 15B (using ANSI C63.4:2014) (up to 18 GHz);
ICES-003, Issue 6;
IEC 61000-3-2; EN 61000-3-2;
IEC 61000-3-3; EN 61000-3-3

EMC – Immunity

IEC 61000-4-2; EN 61000-4-2; AS/NZS 61000.4.2;
IEC 61000-4-3; EN 61000-4-3; AS/NZS 61000.4.3;
IEC 61000-4-4; EN 61000-4-4; AS/NZS 61000.4.4;
IEC 61000-4-5; EN 61000-4-5; AS/NZS 61000.4.5;
IEC 61000-4-6; EN 61000-4-6; AS/NZS 61000.4.6;
IEC 61000-4-8; EN 61000-4-8; AS/NZS 61000.4.8;
IEC 61000-4-11; EN 61000-4-11; AS/NZS 61000.4.11;
IEC 61000-4-13; EN 61000-4-13; AS/NZS 61000.4.13

*Generic/Product
Family/Industry Standards
(excluding SAR)*

IEC 61000-6-1; EN 61000-6-1;
IEC 61000-6-2; EN 61000-6-2;
IEC 61000-6-3; EN 61000-6-3;
IEC 61000-6-4; EN 61000-6-4;
IEC 60601-1-2 3rd Edition; EN 60601-1-2:2007;
AS/NZS 3200.1.2:2005;
CISPR 14-2; EN 55014-2; AS/NZS CISPR 14-2;
CISPR 24; EN 55024;
EN 61326-1;
EN 50121-3-2; EN 50121-4;
EN 50130-4; EN 62233; EN 62311;
ETSI EN 301 489-1; ETSI EN 301 489-3; ETSI EN 301 489-7;
ETSI EN 301 489-17; ETSI EN 301 489-24;
AS/NZS Gaming Machine National Standard 10.1,
February 2010 - clause 2.3.58

Radio

*(Transmitter and Receiver)
(excluding SAR
and HAC testing)*

FCC Part 15 Subpart C (using ANSI C63.4:2014 and ANSI C63.10:2013);
RSS-Gen; RSS-210; RSS-247;
AS/NZS 4268

Stand-by Mode

*(Clauses 19.11.4.1 to
19.11.4.7)*

IEC/EN 60335-1, 4th and 5th Editions;
AS/NZS 60335.1:2002+A1+A2+A3+A4;
AS/NZS 60335.1:2011+A1

Aircraft EMC

RTCA DO160F, G
Section 20: Radio Frequency Susceptibility (Radiated and Conducted)
(excluding product categories B, D, F, G, and L)

Test:

Military EMC

Test Method(s)²:

MIL-STD-461/462B (*up to 18 GHz and 200 V/m*)
CE01, CE03, CS01, CS06, RE01, RE02, RS01, RS02, RS03;
MIL-STD-461/462C (*up to 18 GHz and 200 V/m*)
CE01, CE03, CS01, CS06, RE01, RE02, RS01, RS02, RS03;
MIL-STD-461E/F (*up to 18 GHz and 200 V/m*)
CE101, CE102, CE106, CS101, CS106, CS114, CS115, CS116,
RE101, RE102, RS101, RS103

Environmental
– *Climatic**

IEC/EN 50155:2007:
- test 12.2.3 Cooling
- test 12.2.4 Dry Heat
- test 12.2.5 Damp Heat, Cyclic
- test 12.2.12 Watertightness
- test 12.2.13 Equipment Stress Screening
- test 12.2.14 Low Temperature Storage;

MIL-STD-810D:
- method 501.2 High Temperature
- method 502.2 Low Temperature
- method 503.2 Temperature Shock
- method 507.2 Humidity;

MIL-STD-810G:
- method 501.5 High Temperature
- method 502.5 Low Temperature
- method 503.5 Temperature Shock
- method 507.5 Humidity;

MIL-STD-202G:
- method 103B Humidity Steady State
- method 107G Thermal Shock;

IEC/EN 60068-2-2;
IEC/EN 60068-2-30;
IEC/EN 60068-2-14;
IEC/EN 60068-2-1;
IEC/EN 60068-2-78;

DEF STAN 00-35:2006:
- test CL1 Constant High Temperature - Low Humidity
- test CL4 Constant Low Temperature
- test CL5 Low Temperature Diurnal Cycle
- test CL7 Constant High Temperature - High Humidity
- test CL14 Thermal Shock and Rapid Change of Temperature;

RTCA DO160G –Section 4 Temperature and Altitude;
RTCA DO160G –Section 6 Humidity;

ISTA 3A-test blocks 1, 2;
ISTA 2A-test blocks 1, 2;



Test:

Environmental (Cont'd)
*- Climatic**

Test Method(s) ²:

AS/NZS 1158.6 (Luminaires)
- Clause 5.9 Thermal Endurance and Thermal Testing;
ISO/AS 7240 - climatic tests covered in parts 2 through to 28
including:
- dry heat
- cold
- damp heat cyclic
- damp heat, steady state;
GMW14650 cl. 4.2;
GMW14650 cl. 4.3;
GMW14650 cl. 4.5;
ISO 16750-4;
SAE-J1455:
- clause 4.1, Temperature
- clause 4.2, Humidity;
AREMA C&S Manual 2009 Part 11.5.1
- section D.1
- section D.2
- section D.3;
IEC 60068-2-38; IEC 60068-2-39; IEC 60068-2-66;
IEC 60068-2-67; IEC 60068-2-66; IEC 60068-2-78

Environmental -
*Mechanical**

Vibration, Variable
Frequency:
1 Hz to 3 kHz;
Max Force 10 kN;
Max. Velocity 180 cm/s;
Max. Acceleration 100 g;
Max. Displacement
50 mm

IEC/EN/AS 60068-2-6;
IEC/EN/AS 60068-2-27;
IEC/EN/AS 60068-2-64;
MIL-STD-810D:
- method 514.3 Vibration
- method 516.3 Shock;
MIL-STD-810G:
- method 514.6 Vibration
- method 516.6 Shock
- method 513.6 Acceleration
- method 519 Gunfire Shock;

Vibration, Fixed
Frequency: 0 to 3 Hz;
Max. Displacement
200 mm

MIL-STD-167-1A:
- type 1, Environmental;
MIL-STD-167-1 (ships):
- type 1, Environmental;
MIL-STD-202G:
- method 201A Vibration
- method 204D Vibration, High Frequency
- method 213B Shock
- method 214A Random Vibration;

Shock:
Max. acceleration 2,300 g

Static Load:
Max 10 kN

ISTA 3A-test blocks 3, 4, 6-9;
ISTA 2A-test blocks 4-6;

Drop:
Max 1500 mm, 50 kg

ASTM D4169-09;
ASTM D4728-01;

Immersion: Max. 5.5 m

IEC 60255-21-1; IEC 60255-21-2; IEC 60255-21-3;

Acceleration
Measurements up to
± 2300g at 1 - 12 kHz

ISO 16750-3:2012;



Test:

*Environmental -(Cont'd)
Mechanical**

Test Method(s) ²:

DEF STAN 00-35:2006:
- test M1 Basic Vibration
- test M2 Complete Store Vibration
- test M3 Basic Pulse Shock
- test M4 Drop Topple and Roll
- test M5 Impact
- test M6 Operational Shock Simulation
- test M7 Shock Testing for Warship Equipment and
Armament stores
- test M11 Wheeled Vehicle Transportation Bounce
- test M12 Bump
- test M13 Steady State Acceleration
- test M16 Stacking Static Load Test
- test M17 Bending Test
- test M18 Racking Test;
RTCA DO160G –Section 7 Shocks and Crash Safety;
RTCA DO160G –Section 8 Vibration;
IEC/EN 61373:2010;
IEC/EN 50155:2007 - test 12.2.11 Vibration, Shock, and Bump;
AS/NZS 3439.5;
IEC/EN 60068-2-75;
IEC 62262;
AS/NZS 1158.6 (Luminaires)
-Clause 5.4 Wind Force Test;
AS/NZS 1158.6 (Luminaires)
-Clause 5.5 Vibration Testing;
AS/NZS 1158.6 (Luminaires)
-Clause 5.7 Resistance to External Mechanical Impact;
ISO/AS 7240 mechanical tests covered in parts 2 through to 28
including:
- Shock
- Impact
- Vibration;
GMW14650 cl. 4.9;
GMW3172 cl. 9.3.2; GMW3172 cl. 9.3.3;
SAE-J1455:
- clause 4.9, Vibration
- clause 4.4, Shock;
ASTM D999-08;
ASTM D6179-07;
ANSI C136.31-2010;
AREMA C&S Manual 2009 Part 11.5.1
- sections D.4 & D.5;
IEC 60068-2-7;
IEC 60068-2-31;
IEC 60068-2-55;
IEC 60068-2-81;
IEC 61243-2:
- clauses 5.4.4, 5.4.5, 5.4.6, 5.4.7, & 5.4.8;
IATA PI968;
MIL-HDBK-2036:
-clause 5.1.2.12: (Inclination and attitude testing of ship or
submarine-borne equipment)



Test:

*Environmental -
Harsh Atmospheres**

Test Method(s) ²:

AS/NZS 60068.2.52; IEC 60068.2.52; EN 60068.2.52,
Salt Mist Test;
ASTM B117 Salt Spray;
AS/NZS 60529; IEC 60529; EN 60529;
RTCA DO160G – Section 14 Salt Spray;
IEC 60068-2-11;
IEC/EN 50155:2007:
- test 12.2.10 Salt Mist Test;
MIL-STD-810G:
- method 509.6 Salt Fog
- method 512.5 Immersion;
DEF STAN 00-35:2006:
- test CN2 Salt (corrosive) Atmosphere
- test CL29 Immersion
- test CL27 Driving Rain;
ISO 20653;
SAE-J1455:
- clause 4.3, Salt Spray
- clause 4.4, Immersion;
IEC 60068-2-18

*Environmental -
Altitude and pressure**

MIL-STD-810G:
- method 500.5 Low Pressure (Altitude);
MIL-STD-810D:
- method 500.2 Low Pressure (Altitude);
IEC/EN 60068-2-13 Low Air Pressure;
SAE-J1455:
- clause 4.8, Altitude;
DEF STAN 00-35:2006:
- test CL21 Low Air Pressure and Air Transportation
- test CL9 Rapid and Explosive Decompression
- test CL11 – High Temperature – Low Pressure
- test CL12 – Low Temperature – Low Pressure
- test CL15 – Air Pressure (above atmospheric);
ISTA 2A, test block 5;
ISTA 3A, test block 5;
IEC 60068-2-40;
IEC 60068-2-41;
IEC 60068-3-3;
ASTM F2096-11, Test Method A

*Environmental -
Acoustics**

Measurements of
Sound Pressure level
up to 130 dB at
5-20,000 Hz

IEC 60704-2-14;
IEC 60704-1;
MIL-STD-1474D;
MIL-STD-1474E;
MIL-STD-740B;
MIL-STD-740-1;
MIL-STD-740-2;
ISO 3744;
IEC 60068-2-65



Test:

*Environmental –
UV & Solar Radiation**

Test Method(s)²:

MIL-STD-810G : Oct 2008, Method 505.5,
Procedure I and Procedure II;
IEC 60068-2-5, Edition 2.0 2010-04;
ISO 4892-2:2006(E);
ISO 11341:2004;
ISO 105-B02-2014(E);
ISO 105-B04-1994;
ASTM D4459-12;
ASTM D1248-12;
ASTM D2565-99 (2008);
ASTM D4434 / D4434M-11;
ASTM D4798 / D4798M-11;
ASTM D4799 / D4799M -08 (2013) e1;
ASTM D6695-08;
ASTM C1257-06a (2012);
ASTM C1442-14;
ASTM C1501-14;
ASTM C1519-10;
ASTM C732-06 (2012);
ASTM C734-06 (2012);
ASTM C793-05 (2010);
ASTM D1148-13;
ASTM D3424-11;
ASTM D3451-06 (2012);
ASTM D4329-13;
ASTM D4587-11;
ASTM D4674-02a (2010);
ASTM D5208-14;
ASTM D5894-10;
ASTM D6577-06 (2011) e1;
ASTM D750-12;
ASTM D904-99 (2013);
ASTM D925-14;
ASTM F1945-05 (2011);
ASTM G151-10;
ASTM G154-12a;
ASTM G155-13;
DEF STAN 00-35, Part 3, Issue 4
-CL-2, -CL-3, -CL-6;
ISO 4892-3;
ISO 15003, Section 5.11

**Also using customer supplied test methods directly related to the tests and parameters listed.*

¹This accreditation covers testing performed at the main laboratory listed above, and the following satellite laboratory listed below:

AUSTEST LABORATORIES
46 Glenola Farm Lane
Yarramalong, NSW 2259, AUSTRALIA
Mr. Martin Garwood Phone: +61 2 9680 9990

Test:

Test Method(s)²:

EMC – Emissions

AS/NZS CISPR 11; CISPR 11; EN 55011;
AS/NZS CISPR 12; CISPR 12; EN 55012;
AS/NZS CISPR 13, CISPR 13, EN 55013
(excluding broadcast satellite receivers and the disturbance voltage
at antenna terminals test for other than 75 Ω coaxial equipment);
AS/NZS CISPR 14.1; CISPR 14-1; EN 55014-1;
AS/NZS CISPR 15; CISPR 15; EN 55015;
AS/NZS CISPR 22; CISPR 22; EN 55022;
AS/NZS 4251.1 (except measurements below 2 kHz);
47 CFR, FCC Part 15B (using ANSI C63.4:2014) (up to 18 GHz);
47 CFR, FCC Part 18 (using FCC MP-5:1986);
ICES-003, Issue 6;
IEC 61000-3-2; IEC 61000-3-3;
EN 61000-3-2; EN 61000-3-3

EMC – Immunity

IEC 61000-4-2; EN 61000-4-2;
IEC 61000-4-4; EN 61000-4-4;
IEC 61000-4-5; EN 61000-4-5;
IEC 61000-4-6; EN 61000-4-6;
IEC 61000-4-8; EN 61000-4-8;
IEC 61000-4-11; EN 61000-4-11

*Generic/Product
Family Standards*

IEC 61000-6-1; EN 61000-6-1;
IEC 61000-6-2; EN 61000-6-2;
IEC 61000-6-3; EN 61000-6-3;
IEC 61000-6-4; EN 61000-6-4;
IEC 60601-1-2 Ed. 3.0; EN 60601-1-2: 2007;
AS/NZS 3200.1.2:2005;
CISPR 14-2; EN 55014-2; AS/NZS CISPR 14-2;
CISPR 24; EN 55024;
EN 61326-1;
EN 50121-3-2; EN 50121-4;
EN 50130-4; EN 62233;
Gaming Machine National Standard 10.3,
clauses 2.3.52 to 2.3.57 and 2.3.59;
ETSI EN 301 489-1; ETSI EN 301 489-3; ETSI EN 301 489-7;
ETSI EN 301 489-17; ETSI EN 301 489-24

Military EMC

MIL-STD-461E/F (RS101)

Radio

(Transmitter and Receiver)
(excluding SAR and HAC)

FCC Part 15 Subpart C (using ANSI C63.4:2014 and ANSI C63.10:2013);
RSS-Gen; RSS-210; RSS-247;
AS/NZS 4268

² When the date, revision or edition of a test method standard is not identified on the scope of accreditation, the laboratory is required to be using the current version within one year of the date of publication, per part C., Section 1 of A2LA R101 - General Requirements- Accreditation of ISO-IEC 17025 Laboratories.

Testing Activities Performed in Support of FCC Declaration of Conformity and Certification in Accordance with 47 Code of Federal Regulations and FCC KDB 974614, Appendix A, Table A.1:

Rule Subpart/Technology	Test Method	Maximum Frequency
Unintentional Radiators Part 15B	ANSI C63.4:2014	18 GHz
Industrial, Scientific, and Medical Equipment Part 18	FCC MP-5 (February 1986)	18 GHz
Intentional Radiators Part 15C	ANSI C63.10:2013	18 GHz



Accredited Laboratory

A2LA has accredited

AUSTEST LABORATORIES

Castle Hill, NSW, Australia

for technical competence in the field of

Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009).



Presented this 21st day of December 2015.

A handwritten signature in black ink, written over a horizontal line.

President and CEO
For the Accreditation Council
Certificate Number 2765.02
Valid to November 30, 2017
Revised January 09, 2017

For the types of tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.